

REMARKS

These remarks and the accompanying amendments are responsive to the Office Action dated August 18, 2006 (hereinafter referred to as the "Office Action"), having a shortened statutory period for response that expires today, November 20, 2006. At the time of the last examination, Claims 21-33 were pending, of which Claims 22 and 33 are allowed, Claim 30 is objected to, and Claims 21, 23-29, 31 and 32 are rejected. No claim amendments are made by this response.

Section 2 of the Office Action rejected Claims 24, 25 and 29 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,246,673 to Tiedemann, Jr. (the patent hereinafter referred to as "Tiedemann patent"). The Office Action cites passages from column 10, lines 9-44 of the Tiedemann patent in asserting the anticipation rejection. However, in order to satisfy the applicants' duty of candor and fair dealing with the United States Patent and Trademark Office, the applicants wish to point out that a more relevant portion of Tiedemann might be in column 9, line 63 - column 10, lines 11, which discusses that the Neighbor List contains pilot signal offset for each base station, and that the mobile station uses the pilot signal offset to search for and identify forward link signals from neighboring base stations.

The pilot signals discussed in column 10, lines 31-39 of Tiedemann does not correspond to the long period spreading code of claims 24, 25, and 29 of the present invention. As illustrated in Figure 13 and discussed in pages 7, line 4 through page 10, line 2, the long period spreading code is a scrambling code(s) that base stations use to convert signals from other cells into noise (page 7, lines 19-24). On the other hand, as discussed in column 3, lines 54-58 and illustrated in Figure 1b of the Tiedemann patent, the pilot signal of the Tiedemann patent is clearly different from the long period spreading code required by claims 24, 25, and 29. Thus, the applicants

contend that the Tiedemann patent does not show using phase difference information long period spreading code for the purpose of cell search.

Furthermore, there is no transmission of phase difference information from the base station to the mobile station. As clearly described in column 9, line 63 through column 10, line 44, this part of the description of the Tiedemann patent concerns measurement of propagation delay between BTS 1 and BTS2 (see column 10, lines 31-39). Upon receiving forward link signals from BTS1 and BTS2, the mobile station identifies where these signals came from based on the Neighbor List, which is sent by the serving base station BTS1 (see column 9, line 63 - column 10, line 8). The network then calculates the propagation delay, which is then used to adjust the phase of their forward link transmission. In other words, there is no transmission of the phase difference information from the base station to the mobile station.

Accordingly, the 35 U.S.C. §102(e) rejection of Claims 24, 25 and 29 should be withdrawn, and withdrawal is respectfully requested.

Section 3 of the Office Action rejects claims 26-28 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,546,064 to Hayashi (hereinafter the "Hayashi patent"). More specifically, the Office Action asserts that the first memory 7 of the Hayashi patent corresponds to the storing means, while the control unit 8 corresponds to the management means. In response, the applicants contend that the Hayashi patent does not show a base station or a control station having storing means for storing phase difference information between a long period spreading codes of common control channels of the originating base station and a neighboring base station.

More specifically, first of all, the synchronization acquisition apparatus shown in the Hayashi patent is accommodated within a mobile station (see column 6, lines 39-42). Thus, the

disclosure of the synchronization acquisition apparatus in the Hayashi patent does not concern the base station or the control unit.

Secondly, the object of the Hayashi patent is to synchronize acquisition of signals by matching the phase of a spreading code. As clearly described in paragraph beginning on column 5, line 65, the Hayashi patent concerns difference in phases that accrues due to difference between the lengths of multiple paths that signals transmitted from the same base station take (see column 6, lines 4). Furthermore, as indicated in the paragraph beginning on column 7, line 4, the function of the first memory 7 of the Hayashi patent is merely to store two selected correlation values and the phases of spreading codes that correspond to the correlation values. There is no disclosure or suggestion that the first memory 7 stores phase difference information.

Thirdly, the Hayashi patent does not disclose or suggest management means that manages the phase difference information stored in the storing means. As discussed in the paragraphs beginning on column 7, lines 31 and 51, the function of the control unit 8 is to determine, based on the correlation values stored in the first memory 7, whether the synchronization acquiring operation is complete. In other words, the control unit 8, which the Office Action asserts corresponds to the management means, does not manage phase difference information.

Accordingly, the 35 U.S.C. §102(e) rejection of Claims 26 through 28 should be withdrawn, and withdrawal is respectfully requested.

Section 6 of the Office Action rejects claims 21 and 23 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,259,683 to Sekine (hereinafter "Sekine patent") in view of U.S. Patent No. 6,167,037 to Higuchi (hereinafter "Higuchi patent"). In response, the applicants contend that "the difference in transmission phase of frame synchronizing signal" discussed in

column 6, lines 64 et seq. of the Sekine patent is different from the phase differential information of long period spreading code recited in claims 21 and 23. The object of the Sekine patent is to achieve frame synchronization by determining a difference between the transmission phase of a frame synchronizing signal received from an original base station and that from a neighboring base station. See abstract and claim 2. Although the Sekine patent mentions the long code in column -19, lines 23 et seq., there is no disclosure or suggestion that the phase difference information of the long codes is obtained.

Furthermore, even assuming *arguendo* that the transmission phase difference discussed in the Sekine patent corresponds to the phase difference information of claim 21, the Sekine patent does not disclose or suggest transmission of the phase difference from the base station information to a mobile station. As clearly seen in column 6, lines 33-52, the transmission phase of the frame synchronizing signal in the Sekine patent is only used to correct the phase difference. Then, an ID code for a next frame data is transmitted to a mobile station. The phase difference, however, is not transmitted to a mobile station.

The Higuchi patent has been cited in the Office Action to show the storing step of storing the phase difference information. Although the Higuchi patent discusses phase of long codes, the use of the phase of long codes in the Higuchi patent is limited to synchronization of phases (see e.g. column 20, lines 27-29, claim 22). Particularly, the applicants contend that the Higuchi patent does not show or suggest transmission of the phase difference information from the base station to a mobile station.

Accordingly, the 35 U.S.C. §103(a) rejection of Claims 21 and 23 should be withdrawn, and withdrawal is respectfully requested.

We note that the Higuchi patent can be disqualified as prior art under 35 U.S.C. §103(c). We provided the argument above nonetheless in view of the international application publication of the Higuchi patent, which was published on September 12, 1997 and therefore would be a prior art reference under §102(b).

Section 7 of the Office Action rejected Claims 31 and 32 under 35 U.S.C. §103(a) as being unpatentable over the Hayashi patent in view of U.S. Patent No. 5,953,326 to Nakamura. (hereinafter the "Nakamura patent"). In response, the applicants assert that the Hayashi patent and the Nakamura patent, whether singularly or in combination, do not disclose or suggest the mobile communication system of claims 31 and 32. More specifically, the Hayashi patent and the Nakamura patent do not show a mobile station or a control unit capturing phase difference information from the base unit.

Discussion of the Hayashi patent has been advanced above. As discussed above, the Hayashi patent only shows the mobile station, not the base station or the control station. Furthermore, the Hayashi patent does not show the phase difference information.

The Nakamura patent has been cited in the Office Action to show the cell search means. The applicants believe that the Nakamura patent does not show the storing of phase difference information as required by claims 31 and 32. The Nakamura patent, in column 9, lines 23-50, discloses a mobile station calculating a phase difference (D1, D2, D3) between the peak timing of pilot channels received from three base stations (BS1, BS2, BS3). Although spread code phase differences (0, P1, P2) are assigned to the base stations, the mobile station ignores them and uses the detected peak phase differences (D1, D2, D3). See column 9, lines 38-51.

Furthermore, the Nakamura patent does not show the phase difference information transmitted from the base station to the mobile station or from the base station to the control

station. In the Nakamura patent, the peak phase differences (DI, D2, D3) are notified to the control unit. See column 9, lines 31-37 and lines 51-55. There is, however, no disclosure or suggestion of transmission of the detected peak phase differences (DI, D2, D3) or the spread code phase differences (0, PI, P2) in the Nakamura patent.

Accordingly, the 35 U.S.C. §103(a) rejection of Claims 31 and 32 should be withdrawn, and withdrawal is respectfully requested.

The applicants also note that the Nakamura patent can be disqualified as prior art under 35 U.S.C. §103(c), but provided the argument above nonetheless in view of the priority Japanese application publications of the Nakamura patent, which were published on September 17, 1997 and February 13, 1998, therefore would be prior art references under § 102(b).

For at least the above reasons, prompt favorable consideration is respectfully requested. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 20th day of November, 2006.

Respectfully submitted,

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